

CLAIMS

1. A gene comprising a nucleotide sequence coding for the following protein (a) or (b):

(a) a protein having the amino acid sequence shown in SEQ
5 ID NO:1

(b) a protein having an amino acid sequence derived from the amino acid sequence shown in SEQ ID NO:1 by deletion, substitution or addition of one or plurality amino acids and having at least one physiologic activity selected
10 from the group consisting of neuronal survival-supporting activity, nerve elongating activity, nerve regenerating activity, neuroglia-activating activity and brain memory-forming activity.

2. The gene according to Claim 1 wherein the
15 nucleotide sequence is shown in SEQ ID NO:2.

3. A gene comprising the following polynucleotide (a) or (b):

(a) a polynucleotide containing the nucleotide sequence shown in SEQ ID NO:3
20 (b) a polynucleotide which hybridizes under stringent conditions with a DNA having the nucleotide sequence shown in SEQ ID NO:3.

4. The gene according to any one of Claims 1-3 wherein the gene is a human gene.

25 5. A gene expression vector comprising the gene

according to claim 2 or 3.

6. A host cell comprising the gene expression vector according to Claim 5.

7. An expression product which is expressed by the
5 host cell according to Claim 6.

8. A protein which is encoded by the gene according to Claim 1.

9. An antibody having a binding affinity for the expression product according to Claim 7 or the protein
10 according to Claim 8.

10. An expression product, which comprises the whole or part of a gene of the nucleotide sequence shown in SEQ ID NO:2 and having at least one physiological activity selected from the group consisting of neuronal
15 survival-supporting activity, nerve elongating activity, nerve regenerating activity, neuroglia-activating activity and brain memory-forming activity.

11. A therapeutic and prophylactic composition for neurodegenerative disease, which comprises the protein
20 according to Claim 8, an equivalent protein having a partial amino acid sequence thereof, or the expression product according to Claim 10 as an active ingredient in combination with a pharmaceutical carrier.

12. The therapeutic and prophylactic composition
25 for neurodegenerative disease according to Claim 11

wherein the neurodegenerative disease is selected from the group consisting of Alzheimer's disease, Alzheimer type dementia, brain ischemia and Parkinson's disease.

13. A sense strand oligonucleotide comprising at
5 least 20 consecutive constituent nucleotides of the nucleotide sequence shown in SEQ ID NO:2.

14. A gene therapy composition comprising the sense strand oligonucleotide according to Claim 13 as an active ingredient in combination with a pharmaceutical carrier.

10 15. A gene-specific probe comprising an oligonucleotide sequence of at least 10 consecutive constituent nucleotides of the nucleotide sequence shown in SEQ ID NO:2.

16. A method of screening for candidate compounds,
15 which comprises using the protein according to Claim 8, an equivalent protein having a partial amino acid sequence thereof, or the expression product according to Claim 10, said candidate compounds bind to or influence the protein, equivalent protein or gene product.

20 17. A method for therapy and prophylaxis of neurodegenerative disease, which comprises administering to a patient an effective amount of the protein according to Claim 8, an equivalent protein having a partial amino acid sequence thereof, or the expression product
25 according to Claim 10.

18. The method for therapy and prophylaxis of neurodegenerative disease according to Claim 17 wherein the neurodegenerative disease is selected from the group consisting of Alzheimer's disease, Alzheimer type
5 dementia, brain ischemia and Parkinson's disease.

19. A method of gene therapy, which comprises administering to a patient an effective amount of the sense strand oligonucleotide according to Claim 13.

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